



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Re application of: Visco et al

Attorney Docket No.: PLUSP027

Application No.: 10/686,189

Examiner: Cantelmo, Gregg

Filed: October 14, 2003

Group: 1745

Title: IONICALLY CONDUCTIVE  
COMPOSITES FOR PROTECTION OF ACTIVE  
METAL ANODES

**CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being deposited with the U.S. Postal Service with sufficient postage as first-class mail on September 26, 2006 in an envelope addressed to the Commissioner for Patents, P.O. Box 1450 Alexandria, VA 22313-1450.

Signed: \_\_\_\_\_

Tara Hayden

**INFORMATION DISCLOSURE STATEMENT  
37 CFR §§1.56 AND 1.97(b)**

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

The reference listed in the attached PTO Form 1449, copy of which is attached, may be material to examination of the above-identified patent application. Applicants submit this reference in compliance with their duty of disclosure pursuant to 37 CFR §§1.56 and 1.97. The Examiner is requested to make this reference of official record in this application.

This Information Disclosure Statement is not to be construed as a representation that a search has been made, that additional information material to the examination of this application does not exist, or that these references indeed constitute prior art.

This Information Disclosure Statement is: (i) filed within three (3) months of the filing date of the above-referenced application, (ii) believed to be filed before the mailing date of a first Office Action on the merits, or (iii) believed to be filed before the mailing of a first Office Action after the filing of a Request for Continued Examination under §1.114. Accordingly, it is believed that no fees are due in connection with the filing of this Information Disclosure Statement. However, if it is determined that any fees are due, the Commissioner is hereby authorized to charge such fees to Deposit Account 500388 (Order No. PLUSP027).

Respectfully submitted,

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<b>Form 1449 (Modified)</b>  <b>Information Disclosure Statement By Applicant</b>  (Use Several Sheets if Necessary)	Atty Docket No. PLUSP027	Application No.: 10/686,189
	Applicant: Visco et al. Filing Date 10/14/03	Group 1745

#### U.S. Patent Documents

Examiner Initial	No.	Patent No.	Date	Patentee	Class	Sub-class	Filing Date
	A1	6,068,950	05.30.00	Gan et al.			
	A2	6,274,269 B1	08.14.01	Gan et al.			
	A3	6,203,942 B1	03.20.01	Gan et al.			
	A4	6,489,055 B1	12.03.02	Ichihashi et al.			
	A5	6,511,772 B2	01.30.03	Gan et al.			
	A6	6,096,447	08.01.00	Gan et al.			
	A7	6,200,701 B1	03.13.01	Gan et al.			
	A8	6,495,285 B2	12.17.02	Gan et al.			
	A9	6,537,698 B2	03.25.03	Gan et al.			
	A10	4,402,995	09.1983	Fleischer, Niles A.			
	A11	4,405,416	09.1983	Raistrick et al.			
	A12	5,314,765	05.1994	Bates, John B.			
	A13	6,025,094	02.2000	Visco et al.			
	A14	6,280,598	08.2001	Barton et al.			
	A15	6,413,284	07.2002	Chu et al.			
	A16	6,737,197	05.2004	Chu et al.			
	A17	3,607,417	09.1971	McRae et al.			
	A18	2004/0197641	10.2004	Visco et al.			
	A19	2005/0100793	05.2005	Jonghe et al.			
	A20	2006/0078790	04.2006	Nimon et al.			
	A21	2002/102465 A1	08.01.02	Chen et al.			
	A22	5,213,908	05.25.93	Hagedorn			

#### Foreign Patent or Published Foreign Patent Application

Examiner Initial	No.	Document No.	Publication Date	Country or Patent Office	Class	Sub-class	Translation	
							Yes	No
	B1	WO 02/50933 A2	27.06.2002	PCT				
	B2	WO 02/50933 A3	27.06.2002	PCT				

#### Other Documents

Examiner Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication
	C1	Visco, et al., "Ionically Conductive Composites for Protection of Active Metal Anodes," PolyPlus Battery Company, Appln. No. 10/731,771, filed December 5, 2003, pages 1-43 [PLUSP027X1].
Examiner		Date Considered

Examiner: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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	10/14/03	1745

#### U.S. Patent Documents

Examiner Initial	No.	Patent No.	Date	Patentee	Class	Sub-class	Filing Date
	A23	3,625,769	07.12.71	Lyall, Arthur E.			
	A24	3,976,509	08/24/76	Tsai et al.			
	A25	4,007,057	02/08/77	Littauer et al.			
	A26	5,108,856	04/28/92	Shuster			
	A27	5,427,873	06/27/95	Shuster			
	A28	5,525,442	06/11/96	Shuster			
	A29	6,146,787	11/14/00	Harrup et al.			
	A30	5,510,209	04/23/96	Abraham et al.			
	A31	5,652,068	07/29/97	Shuster et al.			
	A32	5,665,481	09/09/97	Shuster et al.			
	A33	4,163,084	07/31/79	Tsai et al.			

#### Foreign Patent or Published Foreign Patent Application

Examiner Initial	No.	Document No.	Publication Date	Country or Patent Office	Class	Sub-class	Translation	
							Yes	No
	B3	09320645	12.12.97	Japan (abstract)				
	B4	JP 55081471	1980/06/19	Japan				

#### Other Documents

Examiner Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication
	C2	International Search Report dated October 18, 2005 from related International Application No. PCT/US2004/033372. [PLUSP039]
	C3	U.S. Office Action mailed June 16, 2006, from U.S. Application No. 11/092,781. [PLUSP026C1]
	C4	De Jonghe, et al., "Chemical Protection of a Lithium Surface," PolyPlus Battery Company, Appln. No. 11/092,781, filed March 28, 2005, pages 1-34 [PLUSP026C1].
	C5	U.S. Office Action mailed September 7, 2006, from U.S. Application No. 10/824,944. [PLUSP040]
	C6	Visco et al., "Protected Active Metal Electrode and Battery Cell Structures with Non-Aqueous Interlayer Architecture," PolyPlus Battery Company, Appln No. 10/824,944, filed April 14, 2004, pages 1-46. [PLUSP040]
	C7	Visco et al., "Active Metal Fuel Cells," PolyPlus Battery Company, Appln No. 10/825,587, filed April 14, 2004, pages 1-27. [PLUSP038]
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**Other Documents**

Examiner Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication
	C9	International Search Report dated January 16, 2006 from International Application No. PCT/US2004/033361.
	C10	Inaguma et al., "High Ionic Conductivity in Lithium Lanthanum Titanate", Solid State Communications, Vol. 86, No. 10, pp. 689-693, 1993.
	C11	Kobayashi et al., "All-solid-state lithium secondary battery with ceramic/polymer composite electrolyte", Solid State Ionics 152-153 (2002) 137-142.
	C12	Shuster, Nicholas, "Lithium Water Power Source for Low Power – Long Duration Undersea Applications", Westinghouse Electric Corporation, 1990 IEEE, pp. 118-123.
	C13	VanVoorhis, et al., "Evaluation of Air Cathodes for Lithium/Air Batteries", Electrochemical Society Proceedings Volume 98-16, 1999, pp. 383-390.
	C14	Blurton et al., "Metal/Air Batteries: Their Status and Potential – A Review", Journal of Power Sources, 4, (1979), pp. 263-279.
	C15	J. Read, "Characterization of the Lithium/Oxygen Organic Electrolyte Battery", Journal of The Electrochemical Society, 149 (9) (2002), pp. A1190-A1195.
	C16	Abraham et al., "A Polymer Electrolyte-Based Rechargeable Lithium/Oxygen Battery", Technical Papers, Electrochemical Science and Technology, J. Electrochem. Soc., Vol. 143, No. 1, January 1996, pp. 1-5.
	C17	Kessler, et al., "Large Microsheet Glass for 40-in. Class PALC Displays", 1997, FMC2-3, pp. 61-63.
	C18	Feng et al., "Electrochemical behavior of intermetallic-based metal hydrides used in Ni/metal hydride (MH) batteries: a review", International Journal of Hydrogen Energy, 26 (2001), pp. 725-734.
	C19	Iwakura et al., "All solid-state nickel/metal hydride battery with a proton-conductive phosphoric acid-doped silica gel electrolyte", Electrochimica Acta 48 (2003), pp. 1499-1503.
	C20	Li et al., "Lithium-Ion Cells with Aqueous Electrolytes", J. Electrochem. Soc., Vol. 142, No. 6, June 1995, pp. 1742-1746.
	C21	Zhang et al., "Electrochemical Lithium Intercalation in VO <sub>2</sub> (B) in Aqueous Electrolytes", J. Electrochem. Soc., Vol. 143, No. 9, September 1996, pp. 2730-2735.
	C22	Urquidi-Mcdonald, Mirna, "Hydrogen storage and semi-fuel cells", <a href="http://enr.psu.edu/h2e/Pub/Macdonald1.htm">http://enr.psu.edu/h2e/Pub/Macdonald1.htm</a> , (downloaded January 27, 2004, 3 pages).
	C23	Urquidi-Mcdonald, et al., "Lithium/poly(organophosphazene) membrane anodes in KOH and seawater", Electrochimica Acta 47, (2002), pp. 2495-2503.
Examiner		Date Considered

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Examiner Initial	No.	Patent No.	Date	Patentee	Class	Sub-class	Filing Date
	A34	5,532,077	07.02.96	Chu			
	A35	5,523,179	06.04.96	Chu			
	A36	5,582,623	12.10.96	Chu			
	A37	6,248,481	11.11.97	De Jonghe et al.			
	A38	5,882,812	03.16.99	De Jonghe et al.			
	A39	5,516,598	05.14.96	Chu et al.			
	A40	6,358,643	03.19.02	Katz et al.			
	A41	5,814,420	09.29.98	Chu			
	A42	4,917,974	04.17.90	Visco et al.			
	A43	4,833,048	05.23.89	De Jonghe et al.			
	A44	5,162,175	11.10.92	De Jonghe et al.			
	A45	6,723,140	04.20.04	Chu et al.			
	A46	6,198,701	03.06.01	De Jonghe et al.			
	A47	6,165,644	12.26.00	Chu et al.			
	A48	6,017,651	01.25.00	Chu et al.			
	A49	6,537,701	03.25.03	Chu et al.			
	A50	6,955,866	10.18.05	Nimon et al.			
	A51	6,200,704	03.13.01	De Jonghe et al.			
	A52	6,210,832	04.03.01	Chu et al.			
	A53	6,110,236	08.29.00	Chu et al.			
	A54	6,225,002	05.01.01	Chu et al.			
	A55	6,413,285	07.02.02	De Jonghe et al.			
	A56	6,632,573	10.14.03	Nimon et al.			
	A57	7,070,632	07.04.06	Visco et al.			
	A58	6,991,662	01.31.06	Visco et al.			

**Other Documents**

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	C24	Visco et al., "Ionically Conductive Membranes for Protection of Active Metal Anodes and Battery Cells," PolyPlus Battery Company, Appln No. 10/772,228, filed February 3, 2004, pages 1-50. [PLUSP039]
	C25	Jonghe, et al., "Active Metal Electrolyzer," PolyPlus Battery Company, Appln. No. 10/986,441, filed November 10, 2004, pages 1-39 [PLUSP042].
	C26	Visco, et al., "Active Metal/Aqueous Electrochemical Cells and Systems," PolyPlus Battery Company, Appln. No. 10/772,157, filed February 3, 2004, pages 1-89 [PLUSP036].
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